Appln. No. 09/919,734
Amendment dated January 7, 2005

PATENT

Claim 5 (canceled).

6. (currently amended) A moving object detecting and measuring apparatus according to Claim 1, further comprising:

a first moving object detecting means having a first detecting area defined in the shape of a slit on an input image;

at least one second moving object detecting means having a second detecting area defined in the shape of a slit on the same straight line as the first detecting area, said second detecting area being different in length from said first detecting area;

moving object measuring means for deciding a length of said moving object passing through said slit in a longitudinal direction of said slit according to output of said first and second moving object detecting means; and

means for generating measurement codes for all moving object detecting means according to respective valves of said moving object detecting means by taking a first value when a moving object enters said first and second detecting areas and a second value when the moving object does not enter said first and second detecting areas.

7. (original)   A moving object detecting and measuring apparatus according to Claim 6, comprising:

memory means for storing image structure variations of said first and second detecting areas, said memory means being provided so as to correspond to said first and second detecting areas; and

in said moving object measuring means, means for measuring a length, in a longitudinal direction of said slit, of the moving object by comparing said measurement codes, a preset code and information about length, in a longitudinal direction of said slit, of the moving object corresponding to said codes, when said image structure variation of said first detecting area is maximum.

8. (original)   A moving object detecting and measuring apparatus according to Claim 7, further comprising:

output means for outputting a warning or guidance based on measurement results of said moving object measuring means.

Appln. No. 09/919,734
Amendment dated January 7, 2005

PATENT

Claim 9 (canceled).

10. (currently amended) A method for detecting and measuring a moving object by using a computer, comprising the steps of:

defining a first detection area in a shape of slit on an input image;

defining a second detection area in a shape of a slit which is different in length from said first detection area on a same straight line as said first detection area;

storing a first value when the moving object has entered the first and the second detection areas and storing a second value when the moving object has not entered the first and the second detection areas;

generating a measurement code according to respective values stored; and

deciding a length, in a longitudinal direction of said slit, of a moving object passing through said slit according to output of said first and second detection areas.

Claim 11 (canceled).

12. (currently amended) A moving object detecting and measuring method according to Claim 11,Claim 10, further comprising the steps of:

when an image structure variation in said first detection area is maximum, comparing said measurement code, a preset code and information about a length, in a longitudinal direction of a slit, of the moving object corresponding to said codes; and

measuring a length, in a longitudinal direction of said slit, of said moving object.

13. (currently amended) A program for executing detecting and measuring a moving object by a computer, comprising the steps of:

defining a first detection area in a shape of a slit on an input image;

defining a second detection area in a shape of a slit located on a same straight line as said first detection area, said second detection having a length different from said first detection area; [[and]]

deciding a length, in a longitudinal direction of said slit, of a moving object passing through said slit according to output of said first and second detection areas; and

Appln. No. 09/919,734
Amendment dated January 7, 2005

PATENT

generating measurement codes for the first and second object detection areas by taking a first value when a moving object enters the first detecting area and the second detecting areas and a second value when the moving object does not enter the first detecting area and the second detecting area.

14. (new)   A moving object detecting and measuring apparatus formed by using a computer comprising:

a first moving object detector having a first detecting area defined in the shape of a slit on an input image;

at least one second moving object detector having a second detecting area defined in the shape of a slit on the same straight line as the first detecting area, the second detecting area being different in length from the first detecting area; and

a moving object measurer for determining a length of the moving object passing through the slit in a longitudinal direction of the slit according to output of the first and second moving object detectors wherein coordinates, on the image, of a start point and an end point of the first and second detecting areas can be set by an input device.

15. (new)   A moving object detecting and measuring apparatus according to Claim 14 wherein the second detecting area includes at least one detecting area defined by partitioning the first detecting area.

16. (new)   A moving object detecting and measuring apparatus according to Claim 14 wherein the second detecting area includes at least one detecting areas defined so as to extend from one end of the first detecting area and be shorter in length than the first detecting area.

17. (new)   A moving object detecting and measuring apparatus according to Claim 16 wherein the second detecting area includes at least one detecting area extending from one upper end of the first detecting area, the at least one detecting area being defined so as to be shorter than the first detecting area and be different in length.

18. (new)   A moving object detecting and measuring apparatus according to Claim 14 further comprising:

Appln. No. 09/919,734
Amendment dated January 7, 2005

PATENT

a first moving object detector having a first detecting area defined in the shape of a slit on an input image;

at least one second moving object detector having a second detecting area defined in the shape of a slit on the same straight line as the first detecting area, the second detecting area being different in length from the first detecting area;

a moving object measurer for determining a length of the moving object passing through the slit in a longitudinal direction of the slit according to output of the first and second moving object detectors; and

a code generator to generate measurement codes for all moving object detectors by taking a first value when a moving object enters the first detector and the second detector and a second value when the moving object does not enter the first detector and the second detector.

19. (new)   A moving object detecting and measuring apparatus according to Claim 18 comprising:

a memory for storing image structure variations of the first and second detecting areas, the memory being provided so as to correspond to the first and second detecting areas; and

in the moving object measurer, a length measurer for measuring a length, in a longitudinal direction of the slit, of the moving object by comparing the measurement codes, a preset code, and information about length, in a longitudinal direction of the slit, of the moving object corresponding to the codes, when the image structure variation of the first detecting area is at a maximum.

20. (new)   A moving object detecting and measuring apparatus according to Claim 19 further comprising:

an output device for providing information based on measurement results of the moving object measuring apparatus, and generating a measurement code according to respective values stored.